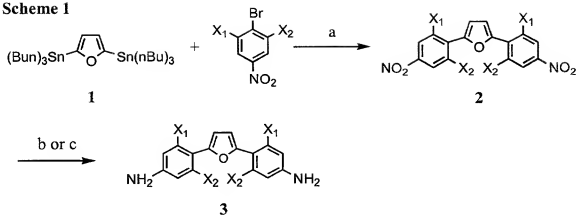
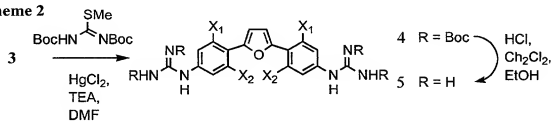


### Scheme 1

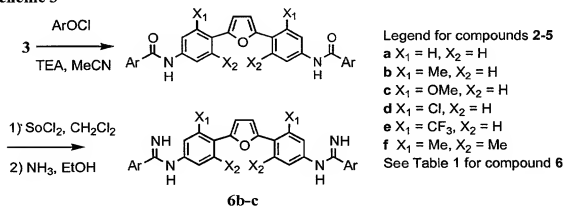


a)  $\text{Pd}(\text{PPh}_3)_4$ , 1,4-dioxane,  $\Delta$ . b)  $\text{H}_2$ ,  $\text{Pd/C}$ ,  $\text{EtOAc}$ ,  $\text{EtOH}$ .  
c)  $\text{SnCl}_2$  dihydrate,  $\text{EtOH}$ ,  $\text{DMSO}$ ,  $\Delta$ .

### Scheme 2



### Scheme 3



### Scheme 4

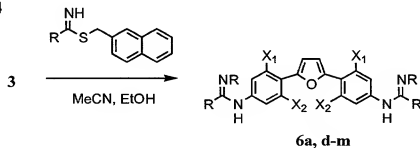


FIG. 1